Patent application 09/892,351
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To the Commissioner for Patents.

My replies to your objections teach how my application inherently yields advantages of improved results and effects over the cited prior art.
To overcome any further objections, please state reasons to show that you have actually considered the claimed advantages as per 707.07(f) and answer the substance of my response.
It is apparent from your action of 26 March that my prior correspondence has not been consulted.
To assist you with references to my application as filed, copies of the pages with paragraph numbers, are supplied.
The office action summary of 26 March 08 refers to my communication filed 29 November 2007 as being filed 29 January 2007.
My application is for method and apparatus.
Dependant claims 59 and 60 concern apparatus for the screen and printed display of anaglyphic image and are not withdrawn. These are included as claims 111 and 112.
I will respond to your numbered items and to all of your references.

2. Your action of 4 December 07 requested a complete claim listing, despite a compete listing having already been filed with the RCE of 29 November 2007.
Claims #7-110 were then included in my reply filed 4 January.
The complete listing of 29 November 2007 without claims #7-110 is re included with this mailing.

3. My communication filed 24 October 07 has already amended the filter values to as when originally filed.
See reply item 3, page 2 of my communication filed 24 October 07.
The amendments to filter values were in order to provide terms to enable use of the invention as per 35 USC 112. The filter amendments are not new matter. They are similar to other prior amendments.
Amended filter values made prior to the allowance of 13 September 05 were accepted.
This inconsistency of your office was used to my disadvantage with the amendment to the values filed 25 May resulting in a final rejection of 31 July 07.
The subsequent amendment of 24 October 07 to filter values as originally filed is re-included with this mailing.

5. A reply concerning specification disclosure for claim 86 has also been prior addressed in my correspondence filed 24 October 07.
Pages with the USPTO bracketed numbers are included with this mailing.
See my application as filed (enclosed) (0183) lines 2-3
"color wash filters...may follow...preceeding filters and be pre-set to render all adjustments with a single sweep for each of the pair..."
See also (0123) (0136) (0188) (0196) for rendering such adjustments with a single sweep.

The dependent "multi selective color treatment" of claim 53 is found in (0026) (enclosed)

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'Color wash' methods are clarified by their action of 'allocating contrasts'.
See my application as filed (enclosed) (0138) lines 3-6 and (0139) lines 7-11.
"...color wash...renders a saturation...'allocating' all that images contrasts within a...color channel."
The 'preceding filters' of (0183) refer to the prior disclosed filter values for 'said selective color treatment'
The method, terms and mode described is clear and concise. For more exact terms please amend the preferred filter values to as requested 25 May '07, to meet the requirements of USC 35 112.

Please note that claim 86 is supported in the specification where the novel 'selective color treatment' of claim 53b, and the 'allocation of color channels' (color wash) of claim 53c, are effected to each image of the image pair in a single sweep.

6. Differentiation with the cited prior art is clearly detailed with items 1, 9b, 9 and 11 of prior communication filed 24 October '07.
See also page 2 of my communication filed 29 November '07.
See also items 8-9 of my communication filed 16 May '07.
Differentiation from and novel advantages and improved results of my application over the deficiencies of the cited prior art have been proven in the above communications.
I will respond to your reference to claim 53.

7. Concerning step a, of my claim 53.
Please note that the capture of left and right images is fundamental for 3-D imaging.
Despite this, my method differs from the cited prior art and enables a significantly improved outcome.

You refer to 6,037,971 Fig' 4 and col' 7 lines 9-15.
Fig' 4 (and fig' 2) result in an output signal consisting of a traditional R/GB anaglyph.
Col' 7 lines 9-15 refer to fig' 4 where left and right cameras contribute signals to produce an anaglyph.
See Col' 7 lines 21-22 "The result is an output, 470, which directly produces a color anaglyph..."

Please note that step 53a of my application simply establishes a pair of images.
Please note that Fig' 4 and col' 7 lines 9-15 of 6,037,971 establish an R/GB anaglyph.
Please note that the fig' 4 (and fig' 2) camera contributing a red image plane is missing two thirds of the contrasts for its view.
Please note that the fig' 4 (and fig' 2) camera contributing a green and blue image plane is missing one third of the contrasts for its view.
The result is contrasts of Red vs Green-Blue.
Please note that my method involves steps to establish contrasts of the whole image for each view. ie Red-Green-Blue vs Red-Green-Blue.

Concerning step b, of my claim 53.
You refer to the 6,037,971 abstract.
The abstract refers to techniques for compensating color plane exposure and minimising subjective viewing disturbance of pure color regions in traditional R/GB color anaglyphs.

Please note that the abstract refers to Figs' 5 and 6 and their paragraphs, that each operate on an R/GB color anaglyph produced as per fig' 2.
See column 7 lines 39-41 describing fig' 5. "The unmodified 3-D color information such as produced at the output of the fig' 2 circuitry, is applied at the input purity monitor..."

See Column 7 lines 55-58 describing fig' 6. "The inputs to exposure monitor 600 are unmodified 3-dimensional color information such as that generated by the circuitry of fig' 2."

Please note that the 6,037,971 abstract relates to operation on an R/GB anaglyph.
Please note that 6,037,971 does not adjust the stereo pair and is not related to my claimed method of "effecting selective color treatment to color records within said image pair"
The image pair are used to make an anaglyph.

You refer to column 3, lines 20-25. This refers to the process of fig' 6 and is clarified in column 4, lines 30-38 where if over or underexposure of red is detected, a green image plane is substituted for the red one.
Please note that column 3, lines 20-25 is related to substituting image planes in an anaglyph and is not related to my claimed method of "effecting selective color treatment to color records within said image pair"

You refer to column 4, lines 30-38. This refers to the process of fig' 6 as above.
Please note that column 4, lines 30-38 is related to substituting image planes in an anaglyph and is not related to my claimed method of "effecting selective color treatment to color records within said image pair".

Please note that the process of fig' 6 results in an anaglyph image with only one third of the contrasts for one view (red or green) and only two thirds of the contrasts for the other view (green and blue).
Please note that my method results in contrasts of the whole image for each view.
ie contrasts of Red-Green-Blue vs Red-Green-Blue.

You refer to column 5, lines 60-65. Referring to fig' 1, this is an overview of digital pixel storage.
See column 5 lines 26-27. "...a common way of storing pixel information..."
Please note that this is completely unrelated to my applications claim 53b of anaglyphic perception of balanced contrasts resulting from the process of selective color treatment applied the left and right images.

You refer to column 7, line 37-column 8, line 16. This is the process of both fig' 5 and fig' 6.
You have paraphrased a detail of the process of fig' 6 concerning the sampling of red pixels for over or underexposure.

You mistakenly write "..minimum ends of the red color value and 'adjust it.'"
Please note that the pixels are not adjusted.
Please note there is no color adjustment. The red image plane is replaced with a green image plane.
See column 7 line 67-column 8, line 1. "610 responds by substituting a brightened version of the green image plane..."
See also column 8, lines 13-15. "...an electronic switch which replaces the red image plane with a brightened version of the green image plane..."

Please note that column 7, line 37-column 8, line 16 is related to the process of fig' 5 and fig'6 that operate on image planes (color channels) of an R/GB anaglyph.
Please note that this is unrelated to my claim 53b.

Concerning step c of my claim 53.
You refer to fig' 4.
Please note that the process of 6,037,971 fig' 4 is in common with all R/GB anaglyph methods.

In my application I refer to image planes as color channels that are allocated to the images.
See the last two lines of (0138) (enclosed) "allocating...contrasts within a...color channel"
Fig'4 of 6.037,971 is the same allocation of color channels that I refer to in (0162) to (0166) (enclosed) of my application.
The allocation of color channels that I refer to in (0138) to (0148) (enclosed) is different.
However, in my application the left and right images are prior treated as disclosed, with the process of step 53b, see (0118) or (0168) (enclosed) to enable anaglyphic perception of balanced contrasts from within the color channels.
My application is also clear that the color channels should remain pure. See (0203) (enclosed) where treatments do not effect the color balance. See also (0148) (enclosed) "The...color wash saturation...should...enable total saturation. This results in...spectrally opposed...color channels.

Please note that as proven above, concerning step b, the process of fig' 5 and fig' 6 alter the image planes of an R/GB anaglyph produced as per fig' 2.
Please note column 7 lines 47-48. "The net result is to eliminate pure red and pure blue pixels..."
Please note that 6,037,971 claims a method that results in anaglyph images with no pure blue or red pixels.
See the last line of claim 2. "...which contain no pure blue or pure red pixels."

Any alteration of color purity in anaglyph images results in double imaging (ghosting)
Please note that as proven above, the process of 6,037,971 fig' 5 and fig' 6 result in:
color channels that are not pure,
images that do not contain all of the contrasts.
images that are not contrast balanced.

6,037,971 column 2. lines 41-55 detail the problem known as anaglyphic retinal rivalry when red or blue subjects are imaged anaglyphically.
Please note that, any benefit gained from reducing the purity of R/GB image planes as per the method of fig' 5 will directly correspond with double imaging induced from its method.

To differentiate, see (0138) (enclosed) of my application "...the images...are intended to be exclusively offered to corresponding eyes for viewing through...anaglyph gels, the contrast and color information ...must be placed inside spectrally opposed...color channels to enable mutual extinction of left and right views."

Concerning step d of my claim 53.
You refer to col' 5 lines 9-13. This refers to fig' 2 or 4.
You refer to col' 7 lines 17-24. This refers to fig' 4.
Please note that the blending of two images into one image, is fundamental to anaglyphs.
Please note that the prior steps of my method in preparation for blending are absent.

Concerning claim 54.
You refer to col' 7 line 54-col' 8 line 16. This refers to the process of fig' 6.
As proven above, the construction process of fig' 6 replaces the red image plane with a green image plane.
Pixels are monitored for over or underexposure of red, and if so, a brightened version of green image plane is substituted in the construction.
Why the green image plane is brightened is not disclosed.
This results contrasts of bright Green vs Green-Blue.

Please note that my claim 54 simply refers to adjusting the brightness or contrast of the anaglyph image produced by novel steps 53a-53d.
This is in accordance with the specification on post production. See Post Production (0203) "Additional treatments...include any broad spectrum alterations that do not effect the color balance."
This results in contrasts of Red-Green-Blue vs Red-Green-Blue.
Please note that the construction process of fig' 6 is unrelated to post production claim 54.

Concerning claim 55. This is addressed in my reply filed 24 Oct' 07 item 9.
You refer to col' 8 lines 4-17. This refers to the process of fig' 6.
As proven above, this involves the substitution of image planes resulting in one third contrasts for one view and two thirds for the other view.
The selective color treatments of my claim 55 are applied to either individual or entire color records of the image pair.
See (0241) to line 3 of (0243) (enclosed) with regard to modulating anaglyph.
Please note that the 6,037,971 bright image plane results in bright Green vs Green-Blue.
Please note that the 6,037,971 brightening of a substituted image plane does not involve adjusting color hue.
Please note specifically, that fig' 6 does not involve adjusting color hues of the stereo pair.
It is completely unrelated to the selective color treatments of the image pair, of claim 55.

Concerning claim 58.
You refer to col' 4 lines 19-23. This refers to the process of fig' 5.
As proven above, this involves altering the purity of color channels (image planes) resulting in anaglyph images that contain no pure blue or red pixels, as per the last line of 6,037,971 claim 2.

My claim 58 claims the anaglyphic image produced as claimed by novel claim 53. Such images are a composition of matter and improvement thereof and so are claimed as per 35 USC 101.
Please note that images claimed in my claim 58 are completely unrelated to images that contain no pure blue or red pixels.

Concerning claim 80.
As proven above, your objections to claim 53 are not substantiated.
Claim 80 is an apparatus analogous to claim 53 and is thus claimed.

Concerning claim 86. This is addressed in item 9 of my reply filed 24 Oct' 07.
You refer to 'frame grabber' and column 3, lines 39-44.
A 'frame grabber' isolates a still frame from motion video.
Column 3, lines 39-44 refers to isolating frames from left and right cameras to make anaglyph stills as per fig' 2 or fig' 4 where an R/GB anaglyph is made.
The frame grabbers allocation of color channels and assembly results in an imbalance of contrasts. One third for one view and two thirds for the other view.

My claim 86 dependently claims the combined process of steps 53b, a selective color treatment and 53c, the allocation of a color channel, summed as a single step, for each image of the stereo pair, prior to allocation of color channels.

Please note that McLaine does not teach selective color treatment of the image pair, used to make an anaglyph, so that a contrast balance between said image pair is perceived.
Please note that a frame grabber isolates frames to make anaglyph stills as per fig' 2 or fig' 4 and is not related to the summing of steps 53b, and 53c, applied to the image pair.

9. Concerning claim 57. You refer to col' 4, lines 14-23.

Please note that col' 4, lines 14-23 (in fact lines 8-23) refer to fig'5 operating on an R/GB anaglyph produced as per fig' 2.
With fig' 5, pixels of an R/GB anaglyph are monitored for color purity so as to make the color less pure.

You mistakenly write in line 4 of item 9 "McLaine is selectively optimising the color value of color records...in the pair of images..."
Please note that it is pixel saturation of an R/GB anaglyph that is monitored, not the image pair.
The prior sentence, col' 4, lines 11-14 details the R/GB anaglyph output signal.

Please note that col' 4, lines 14-23 relates to monitoring and altering pure colored pixels in an R/GB anaglyph.
Please note that McLaine does not adjust the stereo pair.
Please note that McLaine does not adjust the color of the stereo pair.
Please note that McLaine's method prevents pure colors in the image planes of R/GB anaglyphs.
Please note that color fringes in anaglyphs require the purest colors and will be first to be altered resulting in double imaging.
Please note, anaglyphs require pure colors to prevent ghosting-double imaging. Any advantage over retinal rivalry from the method of fig'5 will correspond directly to increased ghosting.

You refer to col' 8 lines 4-17. This refers to fig' 6 where pixels of an R/GB anaglyph are monitored for red color brightness. (intensity)
Red pixels are monitored. If too bright or too dark (over or underexposed) the red image plane is replaced with a green one.
Please note that the green image plane is brightened, not reduced in brightness.
Please note that bright Green vs Green-Blue does not result in balanced contrasts.
Please note, this is completely unrelated to reducing brightness and contrast in the image pair of claim 57. See (0130) (enclosed).

The Luminosity Compression of my application (0128-0129) (enclosed) involves reducing brightness and contrast of the images of a stereo pair, used to make an anaglyph, to assist allocation of a color channel to white areas in the pair of images. See my application (enclosed) (0128) lines 3-6.
It also assists the predictive control of anaglyph brightness as claimed in claim 56. See (0121) and (0122) (enclosed)

Please note that Swifts 'compression' is data compression.
Please note that data compression does not involve reducing brightness and contrast.
Swift compresses the left and right anaglyph channels separately to avoid cross talk (double imaging) that results from the reduced color space (gamut) of digital storage compression.

Please note that Swift confirms that reduced color display of digital compression causes double imaging.
Please note that this confirms that the reduced color purity of McLaines fig' 5 col' 4, lines 14-23 causes double imaging.

Concerning the combined method of McLaine and Swift.
Please note that Swifts anaglyph compression aims to preserve anaglyph color in digital storage.
McLaines impure color channels will therefore be maintained and will not be helped with Swifts digital storage.

Would the examiner prefer an amendment to: